Amendments to the Claims:

Please amend claim 34 as follows, and cancel claims 1-19 without prejudice. The following listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1-19. (canceled)

20. (original) A method of determining a flux of an analyte with respect to a source, the method comprising:

(a) oscillating an electrode including an enzyme between first and second positions proximal to the source, whereby the enzyme contacts the analyte and generates a species detectable by the electrode, and whereby at each of the positions the concentration of the detectable species is dependent on the concentration of the analyte;

(b) applying a voltage to a portion of the electrode so that the detectable species undergoes a chemical change to generate a position-dependent current;

(c) sensing the current at the first and second positions; and

(d) using the sensed currents to determine the flux of the analyte with respect to the source.

21. (original) The method of claim 20, wherein the source comprises a mammalian cell.

22. (original) The method of claim 20, wherein the enzyme is a dehydrogenase.

23. (original) The method of claim 20, wherein the enzyme is an oxidase.

24. (original) The method of claim 23, wherein the enzyme is glucose oxidase and the analyte is glucose.

25. (original) The method of claim 23, wherein the enzyme is glutamate oxidase and the analyte is glutamate.

26. (original) The method of claim 23, wherein the enzyme is lactate oxidase and the analyte is lactate.

27. (original) The method of claim 20, further comprising providing oxygen to the source, thereby preventing distortion of the flux determination by oxygen depletion.

28. (original) The method of claim 20, wherein the detectable species is hydrogen peroxide.

29. (original) The method of claim 28, further comprising contacting the source with catalase, thereby preventing distortion of the flux determination near the source.

30. (original) The method of claim 20, wherein the oscillating step includes moving the electrode at a frequency in the range of about 0.1 Hz to about 0.3 Hz.

31. (original) The method of claim 20, wherein the distance between the first and second positions is between about 10 μm and about 50 μm.

32. (original) The method of claim 20, wherein the first and second positions lie within a gradient of the analyte with respect to the source.

33. (original) The method of claim 20, wherein the distance between a surface of the source and the midpoint between the first and second positions is between about 2 μm and about 500 μm.

34. (currently amended) A method of assessing the viability of an embryo by determining a flux of an analyte with respect to the embryo, the method comprising:

(a) oscillating an electrode including an enzyme between first and second positions proximal to the embryo, whereby the enzyme contacts the analyte and generates a species detectable by the electrode, and whereby at each of the positions the concentration of the detectable species is dependent on the concentration of the analyte;

(b) applying a voltage to a portion of the electrode so that the detectable species undergoes a chemical change to generate a position-dependent current;

(c) sensing the current at the first and second positions;

(d)~~(e)~~ using the sensed currents to determine the flux of the analyte with respect to the

embryo; and

(e)~~(f)~~ using the flux determination to assess the viability of the embryo.

35. (original) A method of screening for compounds that affect a transmembrane flux of an analyte with respect to a cell, the method comprising:

(a) oscillating an electrode including an enzyme between first and second positions proximal to the cell, whereby the enzyme contacts the analyte and generates a species detectable by the electrode, and whereby at each of the positions the concentration of the detectable species is dependent on the concentration of the analyte;

(b) applying a voltage to a portion of the electrode so that the detectable species undergoes a chemical change to generate a position-dependent current;

(c) sensing the current at the first and second positions;

(d) using the sensed currents to determine the transmembrane flux of the analyte with respect to the cell;

(e) contacting the cell with a test compound;

(f) repeating steps (a) through (d) for the cell in the presence of the test compound; and

(g) determining whether a difference exists between the transmembrane flux of the analyte with respect to the cell in the presence of the test compound and the transmembrane flux of the analyte with respect to the cell in the absence of the test compound, a difference indicating that the test compound affects the transmembrane flux of the analyte with respect to the cell.